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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/479,982	01/10/2000	Marcel P.J. Gaudreau	DVS-007(2516/8)	3760

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EXAMINER

RÍOS CUEVAS, ROBERTO JOSE

ART UNIT PAPER NUMBER

2836

DATE MAILED: 03/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/479,982

Applicant(s)

GAUDREAU ET AL.

Examiner

Roberto J. Rios

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-31 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 19-24, 26, 27, 31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood (HEXFET DESIGNER'S MANUAL), IDS paper #6.

As per claim 19, Wood teaches a modulator comprising a transformer comprising a primary and a plurality of secondary windings, each secondary winding having an output terminal (Figures 2, 5); a plurality of retriggerable drive circuits (Q1), each of the retriggerable drive circuits being electrically connected with a respective one of the plurality of secondary windings and having an output and a transformer reflux control circuit (page 75, col. 3-page 76, col. 1); and a plurality of switches (Q2), each switch associated with a respective retriggerable drive circuit and having two output terminals and a control terminal, the control terminal of each switch being in electrical communication with a respective output terminal of the retriggerable drive circuit, wherein each of the plurality of switches is substantially simultaneously switched by a first signal applied to the primary and remains substantially on until a second signal is applied to the primary of the transformer (page 75, col. 3-page 76, col. 1).

As per claims 20-23, Wood teaches the signal comprising positive and negative pulses.

As per claim 24, Wood teaches the transformer comprising a toroidal core (page 76, last paragraph).

As per claim 26, Wood teaches each secondary winding controlling a respective switch (Figure 5).

As per claim 27, Wood teaches the switches comprising avalanched-rated FET's (IRF840).

As per claim 31, Wood teaches a method of switching a signal, the method comprising the steps of: applying an input voltage to a primary of a transformer; inducing a voltage in a plurality of secondary windings of the transformer in response to the input signal; switching, substantially simultaneously, each of a plurality of switches that are electrically controlled by a respective one of the plurality of secondary windings of the transformer, in response to the single input signal (Figures 2, 5); and maintaining each of the plurality of switches in a substantially conducting state after termination of the input signal by blocking the reverse bias caused by the saturation of the transformer (page 75, col. 3-page 76, col. 1).

As per claim 33, Wood teaches applying a reset input signal to the primary winding of the transformer (page 76, paragraph 3).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood in view of Dassonville.

As per claim 25, Wood teaches the transformer comprising a toroidal core but does not specifically disclose a stack of modulators sharing the primary winding of the transformer. However, Dassonville teaches a power modulator comprising a transformer having a primary winding and a plurality of stacked toroidal cores supporting secondary windings and sharing the same primary winding.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Wood and Dassonville such that the modulator comprises a stack of modulators sharing the same primary for the purpose of increasing the high-power capabilities of the modulator system.

As per claim 28, Wood teaches the power modulator comprising a semiconductor switch (FET) but does not specifically disclose the switch comprising an IGBT. However, Dassonville teaches a power modulator comprising a semiconductor switch with a voltage response of approximately 1kV such as bipolar transistors, thyristors, FET's, etc... The Examiner takes official notice that IGBT switches are used for switching voltages between approximately 600V-6000V. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use IGBT switches for the purpose of increasing the total power handling capacity of said modulator.

As per claim 29, Wood teaches the transformer reflux control circuit comprising a HEXFET® MOSFET (IRLML2803) but does not specifically disclose a Zener diode in series with a FET. However, IRLML2803 power FET possesses an intrinsic diode that blocks the reverse bias during reset achieving the same result as a Zener diode in series with a FET.

As per claim 30, the Examiner takes official notice that the combination of a Zener diode and a FET perform the same limiting operation as a back-to-back Zener diodes arrangement. The Examiner wants to point out that applicant has failed to seasonably traverse the official notice taken in the last office action mailed on 11/02/2001. If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made, MPEP § 2144.03.

5. Art of general nature has been cited for applicant's review.

Tarter et al, Milberger et al, Priegnitz, Wood, Reeves and Pan et al teach sending a switching signal through a transformer comprising a primary and a plurality of secondary windings.

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R sponse to Arguments

6. Applicant's arguments with respect to claims 19-31 and 33 have been considered but are moot in view of the new ground(s) of rejection.

Communication with PTO

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rios whose telephone number is (703) 306-5518. In the event that Examiner Rios cannot be reached, his supervisor, Brian Sircus may be contacted at (703) 308-3119. The fax phone number for this group is (703) 305-3432.



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